Vol. 8 No. 2 Fall/Winter 2003

THE NORTHLAND SKY WATCHER

For National Weather Service weather watchers of northeastern Minnesota and northwestern Wisconsin

NWS Duluth Supports the Duluth Air Expo

The Duluth Air and Aviation Expo 2003 was held September 19th and 20th. The show featured the Navy's Blue Angels flying team.

NWS Duluth's support of the 2003 Duluth Air Expo began with morning weather briefings for air expo officials and performers. This support continued with the NWS informational booth staffed by office personnel. A laptop and wireless modem helped us provided weather information for the show's officials, performers, and visitors straight from NWS web sites.

Numerous Visitors to the NWS Booth

With more than 60,000 people attending the air expo, this was the perfect situation for the NWS to make personal contacts with the people who use our products.

Visitors to our booth ranged from seasoned pilots to young children intrigued by our tornado-in-a-bottle.

The weather was perfect on Saturday. Although we were concerned about showers on Sunday, the rain held off until after the air show. These air shows are held every other year. If you attend the next one be sure to stop by the Weather Service booth to say hi, because we will be there.

NWS forecaster Peter Parke helps a young visitor make a tornado. Peter was staffing the NWS booth at the Duluth Air Expo.
Photo by Ken Erkkila, Skywarn spotter.

In This Issue:

We've Gone Digital!

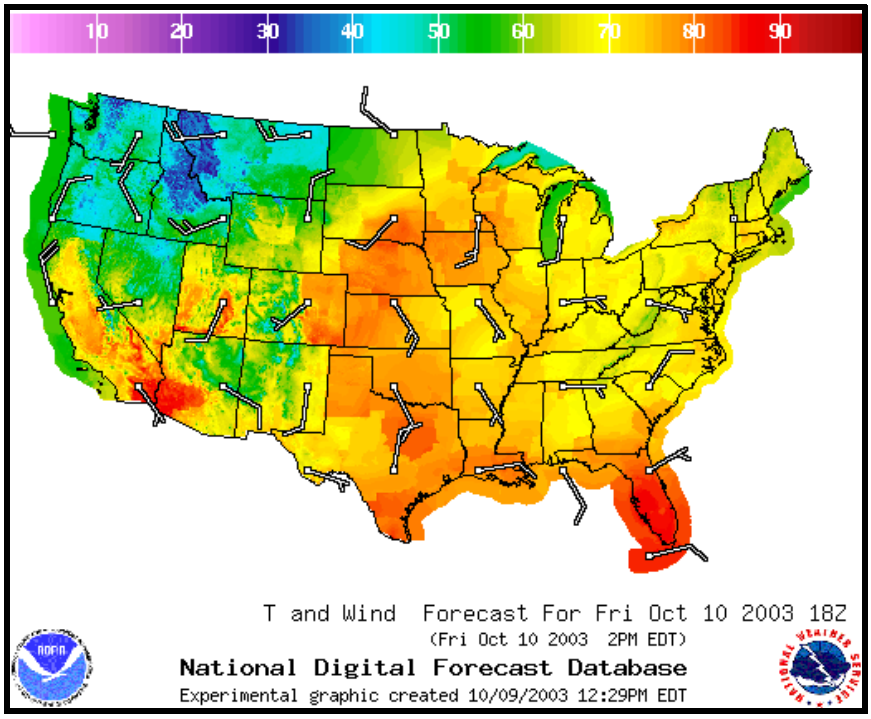
Look at how the preparation of a National Weather Service forecast has changed in just one year:

October 1, 2002:
Forecaster analyzes and studies weather data, coordinates with other NWS forecast offices via telephone, then types forecast on a computer.

October 1, 2003:
Forecaster analyzes and studies weather data, coordinates with other NWS forecast offices via an internet chat room, then manipulates forecast data fields on a computer.

In the earlier scenario, a lot of precious forecast time was spent just typing the forecasts. It was not unusual to spend the first half of an eight hour shift contemplating the forecast and coordinating, and the second half just typing, typing, typing. In our current digital forecast process, much more time is spent in making the forecast decision, rather than composing the forecast product.

Every NWS forecast office in the nation inputs their forecast fields. The forecasts are collected and stored in a national database and displayed in graphical format on the internet. Hence, the name of this new forecast process is the National Digital Forecast Database, or NDFD. Anyone can access these forecasts to create a wide range of tailored text, graphic, and image products.



An example of a NWS digital forecast for the nation. Graphical forecasts can be found at www.weather.gov.forecasts/graphical.

Why create an NDFD?
Many technological and scientific advances have allowed NWS forecasts to become more accurate and more specific in time and space. And because all forecasts from the NWS are "made" from the same database of forecast fields, there is much more continuity among forecasts.

But the real power of a digital database is that it opens the door for providing much more forecast information and in more useful forms. The NDFD will contain much more data than the NWS was previously able to provide, at time scales as small as hourly and space scales of a few miles.

What are the Benefits of the NDFD?
Partners in the production and dissemination of weather forecast products will find the NDFD a gold mine of information. It is up to date and national in scope and contains all the information from which forecasts are produced by the NWS. Businesses will be able to produce numerous applications and products, either general information for radio and television broadcast, or tailored products for specific customers.

Greetings Snowfall Spotters!

It is that time of year again, when precipitation falls as snow. This is when the information that we get from our official snowfall spotters becomes very useful. With Doppler radar we have an idea of the amount of precipitation that has fallen, but we rely on spotter reports for actual snowfall amounts. Last snowfall season we had approximately 50 snowfall spotters call with their reports on a regular basis. We are pleased to announce that since last season, we have added about 20 more spotters to our list. Thank you, snowfall spotters, for all your help and snowfall reports. Keep up the good work and if it snows, let us know!

-Cammye Sims, Snowfall Spotter Program Manager



Let It Snow, Let It Snow, Let It Snow!

Like snow? Then here's a web site for you! The federally funded National Snow and Ice Data Center's (NSIDC) website, *http://nsidc.org,* has scads of snow information.

Established by The National Oceanic and Atmospheric Administration (NOAA) as a national information and referral center in support of polar and cryospheric* research, NSIDC archives and distributes digital and analog snow and ice data. They also maintain information about snow cover, avalanches, glaciers, ice sheets, freshwater ice, sea ice, ground ice, permafrost, atmospheric ice, paleoglaciology, and ice cores.

Here are some frequently asked snow questions from the website.

Is it ever too cold to snow?

No, it can snow even at incredibly cold temperatures as long as there is some source of moisture and some way to lift or cool the air. It is true, however, that most heavy snowfalls occur with relatively warm air temperatures near the ground - typically 15°°F or warmer since air can hold more water vapor at warmer temperatures.

Does snow always get fluffier as temperatures get colder?

No. Studies in the Rocky Mountains have shown that the fluffiest, lowest density snows typically fall with light winds and temperatures near 15°°F. At colder temperatures, the crystal structure and size change. At very cold temperatures (near and below 0°°F) crystals tend to be smaller so that they pack more closely together as they accumulate, producing snow that may have a density (water-to-snow ratio) of 0.10 inch or more.

Why is snow white?

Visible sunlight is white. Most natural materials absorb some sunlight, which gives them their color. Snow, however, reflects most of the sunlight. The complex structure of snow crystals results in countless tiny surfaces from which visible light is efficiently reflected. What little sunlight is absorbed by snow is absorbed uniformly over the wavelengths of visible light, thus giving snow its white appearance.

* *The cryosphere is the portion of the earth's surface where water is in a solid form, usually as snow or ice. This includes sea ice, freshwater ice, snow, glaciers, and frozen ground (or permafrost). The word cryosphere comes from the Greek word "kruos", meaning icy cold.*

Look What's Happening at the NWS!

NWS Meteorologist Receives Award

Craig Sanders, senior forecaster at the NWS Duluth, received the Regional Excellence Award from Dennis McCarthy, NWS Regional Director, for his work as the past co-editor and current contributing editor of *The Front*. *The Front* is a NWS publication geared toward the aviation enthusiast. However many of its articles are enjoyed by the average "weather nut". *The Front* has received regional and national acclaim for its informative and useful articles, as well as for its professional-quality 3-D graphics. Past and current issues of *The Front* can be viewed at *http://aviationweather.gov/general/pubs/front/*. Nice job, Craig!

Craig Sanders

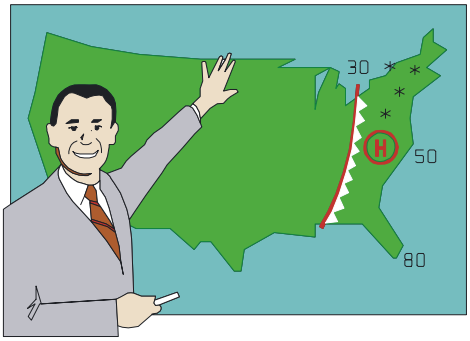
Welcome To a New Forecaster

Lance Tripoli arrived in September as a journeyman forecaster. Lance was born and raised in Arizona. After graduating from the University of Arizona Lance went into the U.S. Air Force where he was a weather forecaster for 4 ½ years, first at Keesler AFB in Mississippi then at Elmendorf AFB in Alaska. Lance continued to work for the Air Force as a civilian after his tour ended. He was at Vandenburg AFB when he was selected to come to Duluth as a forecaster.

Lance likes the snow and cold, and he is glad to be able to see the northern lights and lightning bugs again. In his spare time Lance likes to hike, cycle, ski, and fish.

NWS Hosts the Media

One of the biggest users of our weather products is the media, both broadcast and print. To provide them with the weather services they need and expect, we need to hear directly from them. We hosted a "Media Day" on December 1 to find out what they need and to show them what the NWS can provide them.



Five broadcasters and one newspaper reporter attended the two hour meeting at the NWS office.

What we found out is that weather is very important to the media's customers, so whatever we can provide them out of the ordinary is appreciated. Climate data is the most sought-after information and we were given ideas on how we can provide more climate data on our website. Our web team is already working on some of these suggestions, so keep checking our website at www.crh.noaa.gov/dlh.

NWS Celebrates Diversity

What better way to celebrate diversity than eat? That's what we did in mid October as our office participated in a heritage smorgasbord. (Smorgasbord is of Swedish origin, a combination of smöörgåås, meaning sandwich, and bord, meaning table.) Everyone brought in a food dish from different ethnic groups. Some dishes were expected: Wisconsin cheese and brats, while others were quite surprising: Cajun bean soup, Swedish pancakes, and enchiladas.

This was a great way to enjoy fellowship while also enjoying great food from different ethnic origins.

Co-op Corner

Hind Leask Receives Award

Hind Leask was presented the National Weather Service's Richard Hagemeyer Award for his 45 years as a volunteer cooperative weather observer near Bayfield, WI. Michael Stewart, Meteorologist in Charge of the Duluth NWS and Jan Victorson, Emergency Manager of Bayfield County, presented the award to Hind at the November 12 Bayfield County Commissioner Board meeting.

Hind reports daily temperature and precipitation data from his home of 51 years- six miles north of Bayfield.

Hind was born and raised in Chicago, IL. He was with the Army's 4th Armored Division under General Patton during WW II. He landed at Omaha Beach and fought at the Battle of the Bulge. Hind moved his family to Bayfield in 1951 to seek relief for his sinus problems. Since his move north, he claims he hasn't had a single headache.

Hind was always been interested in the weather so in 1958 he jumped at the chance to take over the observing duties when the current observer moved.

Hind has held a variety of jobs. In Chicago he was in the newspaper delivery business, and in the northland he worked at the Dupont dynamite plant in Washburn and at the Ashland lumber mill. He and his wife had six children. One daughter lives near Milwaukee, three live in the Bayfield area, and two have died.

Hind Leask is shown holding his NWS award. With him is NWS Meteorologist in Charge Mike Stewart.

Hind says there has never been a day when he physically could not make a morning weather report. When he is out of town, his neighbor or brother takes his weather readings for him.

While living near the south shore of Lake Superior he has seen a wide variety of weather, from temperatures in the upper 90s to over 200 inches of snow in a season. He has extensive records of weather observations dating back to the 1800's and has given copies of them to the local library for archiving.

Hind is not only a very valuable member of the NWS climate network, but he is also known as the weather expert in his area and has talked to the local newspaper many times over the years. His weather information has helped local police investigate crimes.

Congratulations, Hind! Thanks for your commitment to the weather observing network of the NWS.

Long-time Observer Dies

We extend our condolences to the family of Walter Martin Johnson. Walter died Wednesday, May 14, 2003, in Villa Vista Nursing Home in Cromwell, MN. .

Walter was a NWS cooperative observer for 42 years in Wright, MN, where he farmed for thirty years. He monitored the Tamarack River during the spring runoff season and kept us informed of the flooding potential.

We thank Walter's wife, Thelma, for continuing the weather observing program for Wright in Walter's memory.

- Bill Carroll, NWS Co-op Program

The National Weather Service in Duluth wish you a happy and safe holiday season!

The Northland Sky Watcher is a newsletter published by the National Weather Service Office in Duluth, MN for our weather spotters and observers. We welcome your questions and comments. We can be reached by:

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